WHAT IS CLAIMED IS:

1. Apparatus comprising:

a laser providing an output beam;

an acousto-optic cell arranged to receive said output beam; and

a plurality of oscillators for driving said acousto-optic cell simultaneously at a corresponding plurality of different frequencies wherein driving said acousto-optic cell at said plurality different frequencies causes a portion of said laser output beam to be diffracted by said acousto-optic cell into a corresponding plurality of secondary beams propagating at an angle to each other.

2. The apparatus of claim 1, further including a plurality of variable gain amplifiers, one thereof associated with each of said plurality of oscillators and arranged to selectively amplify the output of said individual ones of said plurality of oscillators.

3. The apparatus of claim 2, further including electronic circuitry arranged to selectively vary the gain of one or more of said variable gain amplifiers in response to one or more corresponding commands.

4. The apparatus of claim 3, wherein each of said amplifiers has a different bandwidth.

5. The apparatus of claim 3, wherein said electronic circuitry is further configured to vary power in said laser output beam cooperative with said selective gain variation of said one or more variable gain amplifiers for maintaining a predetermined power in each of said secondary beams.

6. The apparatus of claim 1, wherein there are four oscillators and said acousto-optic cell is driven at four different frequencies, thereby providing four secondary beams.

7. The apparatus of claim 1, wherein said laser is a CO_2 laser and laser radiation in said output beam has a wavelength between about 9 and 11 micrometers.

8. The apparatus of claim 7, wherein said acousto-optic cell includes a germanium diffracting material.

9. The apparatus of claim 1, further including a beam expander arranged to increase the size of said laser output beam before said laser output beam is received by said acousto-optic cell.

10. Apparatus comprising:

a laser providing an output beam;

an acousto-optic cell arranged to receive said output beam;

a plurality of RF oscillators, the output of each of which is amplified by a corresponding plurality of variable gain amplifiers, the output of said amplifiers being arranged to drive said acousto-optic cell simultaneously at a corresponding plurality of different RF frequencies thereby causing a portion of said laser output beam to be diffracted by said acousto-optic cell into a corresponding plurality of separate secondary beams propagating at an angle to each other, power in each of said secondary beams being monitored via a corresponding plurality of detectors, and the power in each of said secondary beams depending on the magnitude of said RF driving frequencies and the power in said laser output beam; and

electronic circuitry arranged to vary the power in said laser beam cooperatively with varying the gain of said amplifiers and correspondingly varying the magnitude of said driving frequencies and monitoring of power in said secondary beams for maintaining a predetermined power in each of said secondary beams.

11. The laser of claim 10, wherein said electronic circuitry is further arranged to change said predetermined power in one or more of said secondary beams in response to one or more corresponding commands.

12. The apparatus of claim 10, wherein each of said amplifiers has a different bandwidth.

13. The apparatus of claim 10, wherein there are four oscillators and said acousto-optic cell is driven at four different frequencies, thereby providing four secondary beams.

14. The apparatus of claim 10, further including a beam expander arranged to increase the size of said laser output beam before said laser output beam is received by said acousto-optic cell.

15. A method of creating a plurality of secondary beams from a single laser output beam using an acousto-optic cell, comprising the steps of:

directing said laser output beam into said acousto-optic cell; and

applying a corresponding plurality of RF voltages at a corresponding plurality of different frequencies to said acousto-optic cell, thereby causing a portion of said laser output beam to be diffracted by said acousto-optic cell at a corresponding plurality of different angles to said primary beam and thereby providing the plurality of secondary beams.

16. The method of claim 15, further including the steps of selectively varying the magnitude of said RF voltages applied to said acousto-optic cell and, cooperatively therewith, varying the power in said laser output beam to provide a predetermined power in each of said secondary beams.

17. The method of claim 15, further including the step of expanding the laser output beam before the laser output beam is directed into said acousto-optic cell.

18. The method of claim 15, wherein the laser output beam has a wavelength between about 9 and 11 micrometers and the acousto-optic cell includes a diffracting material of germanium.

19. The method of claim 15, wherein RF voltages are applied to said acousto-optic cell at four different frequencies providing four secondary beams.

20. An apparatus for dividing a laser beam into a plurality of sub-beams comprising:

an acousto-optic cell arranged to receive the laser beam;

means for simultaneously driving the cell with a plurality of different drive frequencies, each drive frequency causing a portion of the laser beam to be directed along a unique path and defining a plurality of sub-beams.

21. An apparatus as recited in claim 20, wherein said dividing means further operates to vary the power of the drive frequencies supplied to the cell to control the power in the sub-beams.

22. An apparatus as recited in claim 21, further including a means for monitoring the power in the sub-beams and wherein the power of the drive frequencies is varied in response to the measured power.